

CLAIMS

1        1.     A fuel vapor processing system, comprising:  
2                a fuel tank;  
3                a canister for absorbing fuel vapor produced from said fuel tank;  
4                a first passage communicating a nominal full level of said fuel tank at one end  
5                thereof with said canister at the other end thereof;  
6                a float valve provided at the fuel tank end of said first passage;  
7                a second passage communicating a part slightly higher than said nominal full level  
8                of said fuel tank at one end thereof with said canister at the other end thereof;  
9                a check valve provided at the fuel tank end of said second passage;  
10               wherein said check valve comprises a low set-pressure valve that opens at a first  
11               threshold pressure  $P_1$  substantially corresponding to a tank full state, a high set-pressure  
12               valve that opens at a second threshold pressure  $P_2$  higher than said first threshold pressure  
13                $P_1$  and is connected in parallel with said low set-pressure valve, said high set-pressure valve  
14               being able to provide a larger flow rate than said low set-pressure valve.

1        2.     A fuel vapor processing system according to claim 1, wherein said low  
2               set-pressure valve and high set-pressure valve are disposed coaxially to each other.

1        3.     A fuel vapor processing system according to claim 1, wherein said low  
2               set-pressure valve and high set-pressure valve are disposed laterally one next to the other.

1        4.     A fuel vapor processing system according to claim 1, wherein each of said low  
2               set-pressure valve and high set-pressure valve is provided with a valve chamber

3                   communicating with a canister end of the corresponding passage, a port communicating  
4                   with a fuel tank end of the corresponding passage, a valve member adapted to selectively  
5                   close said port, and a spring member resiliently urging said valve member against said port.

1                   5.         A fuel vapor processing system according to claim 4, wherein said valve member  
2                   of said high set-pressure valve is cup-shaped, and defines said port of said low set-pressure  
3                   valve in a bottom wall thereof, and said valve member and spring member of said low  
4                   set-pressure valve is received inside said valve member of said high set-pressure valve.